

FPME971419P

AIR COMPRESSOR



166166

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FIELD OF THE ART

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The present invention relates to an air compressor, particularly to, an air compressor having a plurality of air compressing devices respectively able of naturally to compress air and to generate a large quantity of compressed air but requires only a very little power.

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BACKGROUND OF THE ART

Previous conventional air compressor is necessary to expend much electricity, therefore, it is necessary to improve the conventional air compressor or to develop new energy or power.

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The present invention provides an air compressor having a plurality of air compressing devices respectively able of naturally compressing natural air and generating a large quantity of compressed air but requiring only very little power to be provided to users for use and to get essential power.

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DISCLOSURES OF THE INVENTION

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The present invention provides an air compressor having a plurality of air compressing devices respectively capable of naturally compressing a natural air and generating a large quantity of compressed air but requiring only a very little power.

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The plurality of air compressing devices are installed to a rotatable/rotated member and to together revolve therewith around the shaft following the rotation of the rotatable/rotated member and to respectively and naturally impulse down to compress air.

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BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a side view of the first embodiment of the air compressor



ACTION

according to the present of invention.

Fig. 2 is enlarged side view section of a trough like member providing for a bearing to inlay and a hollow shaft borne via the bearing and a rubber cap having a central hole providing for covering an outside side of the bearing and providing for an end portion of the hollow shaft to be inserted therein and a container receiving and storing the compressed air come from the hollow shaft etc. of the air compressor of the present of invention.

Fig. 3 is a side view of a second embodiment of the air compressor of the present of invention.

DETAILED DESCRIPTION OF THE INVENTION

As shown in Fig. 1, the air compressor of present invention comprises:

a plurality of air compressing devices which are respectively attracted by the gravity and naturally to impulse down for compressing natural air by the gravity;

a rotatable/rotated member (for example a rotatable hollow shaft 1) providing for installing the plurality of air compressing devices and discharging all of the compressed air compressed by the plurality of air compressing devices;

the plurality of air compressing devices 2,3,4,5,6,7,8,9 are installed to the rotatable hollow shaft 1 or the rotated member and to together revolve around a the shaft following the rotation of the rotatable hollow shaft 1, and are respectively attracted by the gravity and naturally to impulse down for compressing natural air by the gravity and to generate a large quantity of compressed air to be provided to user for use and to get essential power when each of the plurality of air compressing devices respectively revolves around the shaft to a position on or about a vertical line (vertical position);

the each of the plurality of air compressing devices comprises a long cylinder (a long air chamber denoted by reference numbers 2,3,4,5,6,7,8,9) and a solid, long and very weighty piston 10 or 11 (an appropriately long and weighty piston) inside the long cylinder and

can impulse down to compress the natural air by the gravity only and without using any power, two air intakes 2 respectively can automatically open/close to allow/restrict the natural air entering the long cylinder of the each air compressing device; and

5 a short pipe 12 or 13 and others constructed for installing the each air compressing device and conveying out the compressed air compressed via the each air compressing device, and for restricting the compressed air to discharge only at a restricted quantity for generating an appropriate high pressure, then to discharge the

10 compressed air;

two supporters 14, 15 which have respectively a seal-type bearing 16, 17 and are respectively to support two ends of the rotatable hollow shaft 1 or the rotated member and to allow the rotatable hollow shaft 1 or the

15 rotated member to rotate;

a receiving container 19 for receiving and containing all of the compressed air compressed via the each of the plurality of air compressing devices and fixed at one of the two supporters 14,15 but is not rotating

20 together with the rotatable hollow shaft 1;

a speed reducing device for driving the rotatable hollow shaft 1 or the rotated member at a low speed and can save many labor;

25 a seal members namely a rubber cap 20 having a central aperture that can provide for an end portion of the rotatable hollow shaft 1 to be inserted therein and can be bound to the end portion of the rotatable hollow shaft 1 so as to seal a very small space of one of the bearing 17 of the two supporters and can restrict the air inside the receiving

30 container 19 to leak from the very small space;

a starting switch 18 or controller 45;

a container 21 storing and enhancing a pressure of all of the compressed

35 air; and

a frame 22 providing for installing the two supporters 14, 15 and the speed reducing device and the container 21 etc..

40 The rotated member (or for example, the rotatable hollow shaft 1) is rotated by the speed reducing device not at a high speed but at an

appropriately low speed and is therefore, not generating a centrifugal force and can make the piston 10, 11 of the each air compressing device to naturally impulse down for compressing air when the each air compressing device revolves to a position on or about to the vertical line.

5 The rotatable shaft 1 is providing not only for installing the hollow short pipe 12 or 13 of the each air compressing device, also for connecting the bottom end of the cylinder of the each air compressing device so as to install each of the plurality of air compressing devices on its
10 circumference and is providing for receiving then for discharging out all of the compressed air to the receiving container 19 from the end portion of its hollow portion and is providing for the plurality of air compressing devices to be driven and rotated by the speed reducing device.

15 The plurality of air compressing devices are installed to the rotatable hollow shaft 1 along radial direction and in a form of spoke-like shape, then to together revolve around the shaft following the rotation of the rotatable hollow shaft 1 and are respectively attracted by the gravity and naturally to impulse down to compress air.

20 The solid, long and very weighty piston 10, 11 of the each air compressing device is a solid piston and is weighty and not a hollow piston as a conventional piston, and is inside the long cylinder.

25 The air compressor according to the invention further includes: the each air compressing device, as it is brought to rotate by the rotation of the rotatable member (for instance, the rotatable hollow shaft 1) or the rotated member and rotates the rotation shaft one circle, and has the function that is able to impulse down and to compress air two times since the solid,
30 long and very weighty piston 10 or 11 of the air compressing device is able of being attracted by the gravity and naturally to impulse down and to compress air by the gravity and not necessary to use any external power or energy when the each air compressing device is respectively revolve around the shaft to a position on or about a lower end of the vertical line.
35 Each long cylinder 2 of the each air compressing device further comprises a conveying pipe 23 or 24 for conveying out a compressed air to a lower air chamber of the long cylinder then to discharge the compressed air with the short pipe 12 or 13 of the each air compressing device.

40 The two air intakes are respectively located at the two ends of the long cylinder (air chamber) of the each air compressing device and are

respectively formed by an aperture 25 or 26 and a first or second valve 27 or 28 having a proper weight and located beneath the aperture 25 or 26 namely located inside the long cylinder, whereby not only the second valve 28 can automatically close to restrict the discharge of the compressed air, and the first valve 27 can automatically open toward the inside of the long cylinder and to allow the natural air outside to be attracted into the long cylinder when the each air compressing device is respectively revolve to a position on or about the lower end of the vertical line and when the piston impulses down to compress the natural air, but also, the valve 27 can automatically close to restrict the discharge of the compressed air, and the valve 28 can automatically open toward the inside of the long cylinder and to allow the natural air outside to be attracted into the long cylinder when the each air compressing device respectively revolves to a position on or about the upper end of the vertical line and when the piston 10 or 11 impulses down to compress the natural air.

A hollow portion of the short pipe 12 or 13 of the each air compressing device respectively has a cone valve 29 which is its air inlet, it is larger than its outlet (that is in-pumping hole 30), particularly, it has an elastic thin piece 31 in front of the in-pumping hole 30, and can be pushed open when the cone valve 29 is pumping air, so the cone valve 29 is only allowing the each air compressing device respectively to pump air into the rotatable hollow shaft 1 but not allowing the air to retract. In another word, the cone valve 29 is a one-way valve and only allowing air to discharge but not allowing the air to retract.

The conveying pipe 23 or 24 of the each air compressing device has respectively a smaller cone valve 32 having its function as that of the cone valve 29 and a smaller elastic thin piece 33 having its function as that of the elastic thin piece 31, namely the conveying pipe 23 or 24 has a smaller one-way valve having its function as that of the cone valve 29, so it opens only at the each of air compressing device respectively revolves to a position on or about the lower end of the vertical line but not allowing the compressed air enters into an upper air chamber of the long cylinder of the each air compressing device.

The cone valve 29 can restrict the compressed air only to be pumped into the rotatable hollow shaft 1 but not allowed the air to retract, also, it can reduce the sound caused by the impulse of the solid, long and very weighty piston of the each air compressing device when the solid, long and very weighty piston 10 or 11 of the each the air compressing device

impulses down to compress air.

The rotatable hollow shaft 1 comprises means for connecting two smaller hollow pipes 1A, 1B respectively to two ends of a larger and shorter hollow pipe 4 or other larger and shorter hollow member 1C so as to insert and to connect the short pipe 12 or 13 of the each of the air compressing device to the circumference of the larger and shorter hollow member 1C and to install the each of air compressing device thereto. The rotatable hollow shaft 1 comprises: its first end portion 1D that is sealed (this end portion 1D is not connected to the receiving container 19). Two ends of the rotatable hollow shaft 1 are respectively installed at the two supporters 14, 15 which respectively have the seal-type bearing 16, 17 so can be driven and rotated easily by the speed reducing device, and in turn to rotate the each air compressing device. The seal-type bearings 16, 17 are respectively installed on an upper end of each of the two supporters 14, 15. The other one end portion 1E of the rotatable hollow shaft 1 is inserted in the receiving container 19 and to discharge or convey out all of the compressed air to the receiving container 19 then to be provided for the user for use.

The end portion 1E of the second end of the rotatable hollow shaft 1 has a cone valve 34 having the function as that of the cone valve 29 and an elastic thin piece 35 having the function as the elastic piece 31 so it can only restrict all of the compressed air to be pumped into the container 21 but not allowed the air to retract.

As shown in Figs. 1 and 2, the receiving container 19 is combined with the other end portion 1E of the rotatable hollow shaft 1, namely, the annular shape flange 19A of the opening of a notch in the receiving container 19 is connected together with an annular flange 36A of a bearing housing, namely, a trough like socket 36. The trough like socket 36 has a central aperture 36B providing for the compressed air to discharge from the rotatable hollow shaft 1 and to pass and enter into the receiving container 19.

Provided between the annular shape flange 19A of the receiving container 19 and the flange 36A of the trough like socket 36 is a washer 19B, the washer is able of preventing the compressed air from leaking. The trough like socket 36 is providing for inlaying thereinto a seal-type bearing 17 of the one of the two supporters 14, 15 so that the container 19 does not rotate following the rotation of the rotatable hollow shaft 1 but can receive

and store all of the compressed air respectively conveyed out from the short pipe 12 or 13 of the each air compressing device then can provide for discharging the compressed air to be stored in the container 21 so as to be provided for the user for use.

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The very small space 17A of the seal-type bearing 17 is located between an outside circumference of a central hole of a cap 17B of the seal-type bearing 17 and an outside circumference of a central hole of one side of the seal-type bearing 17 and is sealed by a trough like rubber cap 20. The
10 trough like rubber cap 20 has a central hole that can provide for the end portion 1E of the rotatable hollow shaft 1 to be inserted therein and has a flange 20A that can be connected to the flange 36A of the trough like socket 36 and fixed thereto.

15 The central hole of the trough like rubber cap 20 is properly and tightly bound on an outside circumference of the other end portion 1E of the rotatable hollow shaft 1 and therefore, can prevent the compressed air from leaking.

20 The first end of the short pipe for example 12 or 13 of the each air compressing device is respectively connected to the central portion of the lower end of the long cylinder of the each air compressing device and the second end of the short pipe 12 or 13 is inserted into and connectedly
25 installed on the circumference of the larger and shorter hollow member 1C of the rotatable hollow shaft 1 so as to fix and install each air compressing device and to discharge the compressed air into the rotatable hollow shaft 1.

30 The each air compressing device further comprises two groups of cushion devices 39, 40 for reducing the impulse force of the piston 10 or 11 so as to reduce sound produced by the impulse of the piston 10 or 11 when the piston impulses down to compress the air. Also, the height of one of the two groups of cushion devices 39, 40 should be appropriate such that
35 some of the compressed air can be retained inside the long cylinder of the each air compressing device, hence, the retained compressed air can reduce the impulse force of the piston and to an extent reduce the sound produced by the piston when the piston impulsing down for compressing the air to an extent. The two groups of cushion devices are respectively of rubber cushions or air cushions or compress springs or oil cushions.

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with the aid of a motor 37, the speed reducing device drives a pulley 38 of

a smaller size, which in turn draws a belt 42 and drives a pulley 41 of a larger size, whereby the speed reducing device is not only enable the rotatable hollow shaft 1 to rotate at an appropriately low speed and to drive the plurality of air compressing devices to revolve and to let the piston of the each air compressing device respectively to be attracted by the gravity and to impulse down to compress air by the gravity and without the external power or energy, the speed reducing device also has a very large force that enable the rotatable hollow shaft 1 to rotate but by only little power (little electricity). The larger pulley 41 is many times larger than the smaller pulley 38 even larger than the pulley 41 shown in Fig. 1. The speed reducing device is driven to rotate by means of any other power. The speed reducing device is a driving device of labour saving and cycling device.

The means for driving the speed reducing device of the air compressor of the present invention further includes a small pneumatic motor 43 (please see dotted line portions within the motor 37) which is driven by the air pumped into the container 21 beforehand, thereby completely without using any external power or energy, particularly, because the plurality of air compressing devices are not necessarily rotating at a high speed so only by using the speed reducing device and with only a little power, therefore, the small pneumatic motor 43 is using only a very small quantity of the compressed air, so large quantities of all of the compressed air generated from the plurality of air compressing devices are able of enlarging the very small quantity of the real demand of the small pneumatic motor 43 and able of exceeding large quantities. The container 21 has a pipe 44 controlled by a control valve 45 (that is an actuating switch) and can supply the very small quantity of the compressed air to the small pneumatic motor 43.

Due the above designs, the air compressor of the present invention is able to continuously compress air to generate a large quantity of compressed air then to provide for the user for use and to get essential power by using only the gravity and the very little power (little electricity) to drive the motor 37 of the speed reducing device; or by using only the gravity and the very small quantity of the compressed air, to drive the small pneumatic motor 43 of the speed reducing device.

The receiving container 19 has a pipe 46 that can convey out all of the compressed air to the container 21.

The plurality of air compressing devices are very firmly connected together by a combining ring 47 after the each air compressing device is installed on the rotatable hollow shaft 1.

5 The container 21 comprises an adjustable exhauster 48 so that the user can discharge some of the compressed air inside the container 21 when necessary so as to regulate and control the pressure of the compressed air inside the container 21 to a significant degree.

10 A combining ring 47 having a starting handle 49 provides for the user's hand to rotate the rotatable hollow shaft 1 so as to drive the plurality of air compressing devices to revolve around the shaft so that the each air compressing device respectively compresses air into the container 21 and stores therein then to supply air to actuate the small pneumatic motor 43 to
15 continuously run and to drive the rotatable hollow shaft 1 or rotated member 1 to continuously rotate and to drive the plurality of air compressing devices to respectively revolve.

20 The solid, long and very weighty piston of the each air compressing device further comprises a piston ring having a function as that of the conventional piston.

25 The solid, long and very weighty piston and the long cylinder of the each air compressing device are respectively made to a shape including a quadrangle.

30 The air compressor of the present invention further comprises a small convex (so small that it is similar to a semispherical protruding) controlling jut 50, installed in the concave portion inside the long cylinder of the each air compressing device, that can automatically protrude slightly outward or backward for controlling the solid, long and very weighty piston of the air compressing device to impulse down only as the piston revolves to a position on or about the vertical line, that is able to control the solid, long and very weighty piston not to impulse down before
35 it reaches a position on or about the vertical line. For matching the small convex controlling jut 50, the edges of the two ends of the solid, long and very weighty piston of the each air compressing device are respectively formed in the shape of an arc, so that not only the solid, long and very weighty piston can easily press and pass the small convex controlling jut
40 50 and can impulse down to compress air when it revolves to the upper end of the vertical line, but also can easily retract to its original position to

impulse down and compress air again when the solid, long and very weighty piston revolves to the lower end of the vertical line.

The container 21 comprises a pressure meter 52 and an exhauster 53 providing for the user to use the compressed air inside the container 21.

According to the second embodiment of the air compressor of the present invention, it further comprises several means for properly extending and enlarging the rotatable hollow shaft or the rotated member shown in Fig. 2, and installing at least two groups even more groups of the plurality of air compressing devices 54, 55, 56, 57, 58 to the extended or enlarged rotatable hollow shaft or the rotated member 59 (as shown in Fig. 3), and enhancing the power of the speed reducing device and to enlarging the volumes of the receiving container 19 and the container 21, and extending the frame 22 more longer until it reaches the base portion 22A etc. so as to generate much more quantities of compressed air. As shown in Fig. 3. the air compressor of the second embodiment of the present invention further comprises some links 59A, 59B to link the combining ring 47 of each of the at least two groups or more groups of the plurality of air compressing devices 54,55,56,57,58 so as to more strongly fix the two groups or more groups of the plurality of air compressing devices.

The frame 22 comprises several holes 60 or 61 that can be provided for the user for inserting a bolt and for fixing the air compressor of the present invention.

OPTIMUM IMPLEMENTATION OF THE INVENTION

The optimum implementation of the invention other than as shown in fig. 1 comprises of the plurality of air compressing devices are installed to the rotatable hollow shaft 1 and driven at an appropriately low speed by the speed reducing device and to together revolve around a shaft following the rotation of the rotatable hollow shaft 1 (that is to rotate together with the rotation of the rotated member), and to be respectively attracted by the gravity and naturally to impulse down for compressing the natural air by the gravity and to generate a large quantity of compressed air when each of the plurality of air compressing devices respectively revolves around a shaft to a position on or about to a vertical line, the plurality of air compressing devices are installed with even more groups (as shown in Fig. 2) so as to generate much more quantity of compressed air. And the

rotatable hollow shaft 1 is rotated at an appropriately low speed by the speed reducing device that generating a power by a motor or by a small pneumatic motor which is driven by a very small quantity of air inside the container 21 pumped thereinto beforehand.

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INDUSTRIAL APPLICATION

The air compressor of the present invention is able of naturally compressing a natural air by using only very little power or electricity, even by only a very small quantity of the compressed air to generate a much more large quantity of compressed air to provide essential power. This widely industrial application is appreciated.

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1. An air compressor, comprises:
 - a plurality of air compressing devices being able to impulse down by the action of the gravity to compress air;
 - a rotatable member;
 - said plurality of air compressing devices that able to impulse down by the action of the gravity to compress air being installed on said rotatable member so as to rotate together with said rotatable member, and being able of attracted by the gravity to naturally impulse down to compress the natural air and generating a large quantity of compressed air;
 - said rotatable member being rotatable at a very low speed such that when said air compressing devices revolving to a position on or about a line vertical to the horizontal line, said air compressing devices being able to naturally impulse down by the action of the gravity and compressing the natural air into compressed air to be provided for the user for use.
2. The air compressor as claimed in Claim 1, characterized in that, said plurality of air compressing devices are mounted along the radial direction, that is, in a spoke like manner on said rotatable member, and are rotated by said rotatable member to revolve around a shaft.
3. The air compressor as claimed in Claim 1 or 2, characterized in that, said rotatable member includes a speed reducing device that is driven by a motor and rotates at a very low speed.
4. The air compressor as claimed in Claim 1 or 2, characterized in that, said rotatable member includes a speed reducing device that is driven by a pneumatic motor that needs only a very small quantity of air to drive said speed reducing device to rotate at a very low speed.
5. The air compressor as claimed in Claim 1 or 2, characterized in that, said rotatable member includes a speed reducing device that is driven by a pneumatic motor and rotates at an appropriately low speed.
6. The air compressor as claimed in Claim 1 or 2, characterized in that, said rotatable member includes a speed reducing device that can be driven by manually and rotates at an appropriately low speed.

7. The air compressor as claimed in Claim 1 or 2, characterized in that, said rotatable member includes a speed reducing device that can be driven by any other power and rotates at an appropriately low speed.

8. The air compressor as claimed in Claim 1 or 2, characterized in that, said rotatable member is a rotatable shaft;
each of said plurality of air compressing device is constructed to include an air chamber, that is, a cylinder and a piston placed inside said chamber;
said air chamber includes an air inlet, said air inlet not only being able to be automatically opened for the natural air to enter said air chamber when said each of the plurality of air compressing devices revolves to a position on or about a lower end of line vertical to the horizon, said air inlet also being able to be automatically closed for restricting the compressed air in said air chamber to convey out therefrom when said each of the plurality of air compressing devices revolves to a position on or about an upper end of line vertical to the horizon; and
compressed air receiving container for receiving the compressed air convey out from said air compressing devices.

9. The air compressor as claimed in Claim 8, characterized in that, said air compressor further includes a plurality of connecting members connected to the end portion of said air chamber of said plurality of air compressing devices and said rotatable shaft for installing each of said plurality of air compressing devices to said rotatable member so as to install each of said plurality of air compressing devices to said the rotatable shaft of the pneumatic motor.

10. The air compressor as claimed in Claim 8 or 9, characterized in that, said rotatable shaft is a hollow shaft for conveying out said compressed air from said air compressing devices therefrom.

11. The air compressor as claimed in Claim 8 or 9, characterized in that, said rotatable shaft comprises a section of a greater diameter so as to facilitate the installation of said plurality of air compressing devices.

12. The air compressor as claimed in Claim 8, characterized in that, said compressed air receiving container is combined with the end portion of said rotatable shaft so as to receive said compressed air compressed by said plurality of air compressing device convey out from said end portion

of said rotatable shaft.

13. The air compressor as claimed in Claim 9, characterized in that, each of said plurality of connecting member is hollow so as to facilitate the conveying out of said compressed air compressed by said air compressing device to said rotatable shaft.

14. The air compressor as claimed in Claim 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13, characterized in that, said air compressor further includes a container for storing and increasing the pressures of the compressed air.

15. The air compressor as claimed in Claim 8, characterized in that, said piston is a solid and very weighty piston, said piston being able to impulse down and produce a large force for compressing natural air when attracted by the gravity, hence said piston is not the conventional hollow piston.

16. The air compressor as claimed in Claim 8 or 15, characterized in that, said piston is a long piston so as to make it weight very weighty.

17. The air compressor as claimed in Claim 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16, characterized in that, each of said plurality of said air compressing devices is able to be attracted by the gravity to impulse down and to compress the natural when said air compressing devices revolve respectively to a position at on or about the lower end of a line vertical to the horizon so that said air compressing devices have the function to compress natural air two time as they rotate on circle around the shaft.

18. The air compressor as claimed in Claim 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16, characterized in that, said air compressor further includes control means for controlling each of said plurality of air compressing device such that said piston of said each of said plurality of air compressing devices can only impulse down and compress natural when said each of said air compressing devices revolves to a position on or about a line perpendicular to the horizon.

19. The air compressor as claimed in Claim 1 or 2 or 8, characterized in that, said plurality of air compressing devices is grouped into at least two or more than two groups and are respectively installed on said rotatable

member so as to compress much more natural air,

20. The air compressor as claimed in Claim 1 or 2 or 8 or 11 or 17 or 18 or 19, characterized in that said air compressor further includes a handle to be used by the user for driving said plurality of air compressing devices to revolve around a shaft so as to enable each of said plurality of air compressing devices to compress natural air.

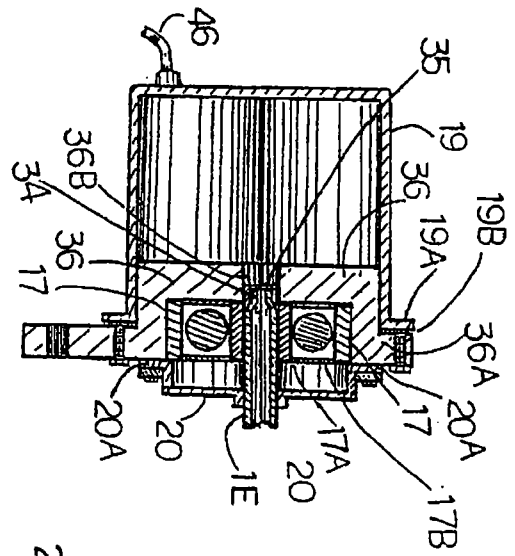


FIG. 2

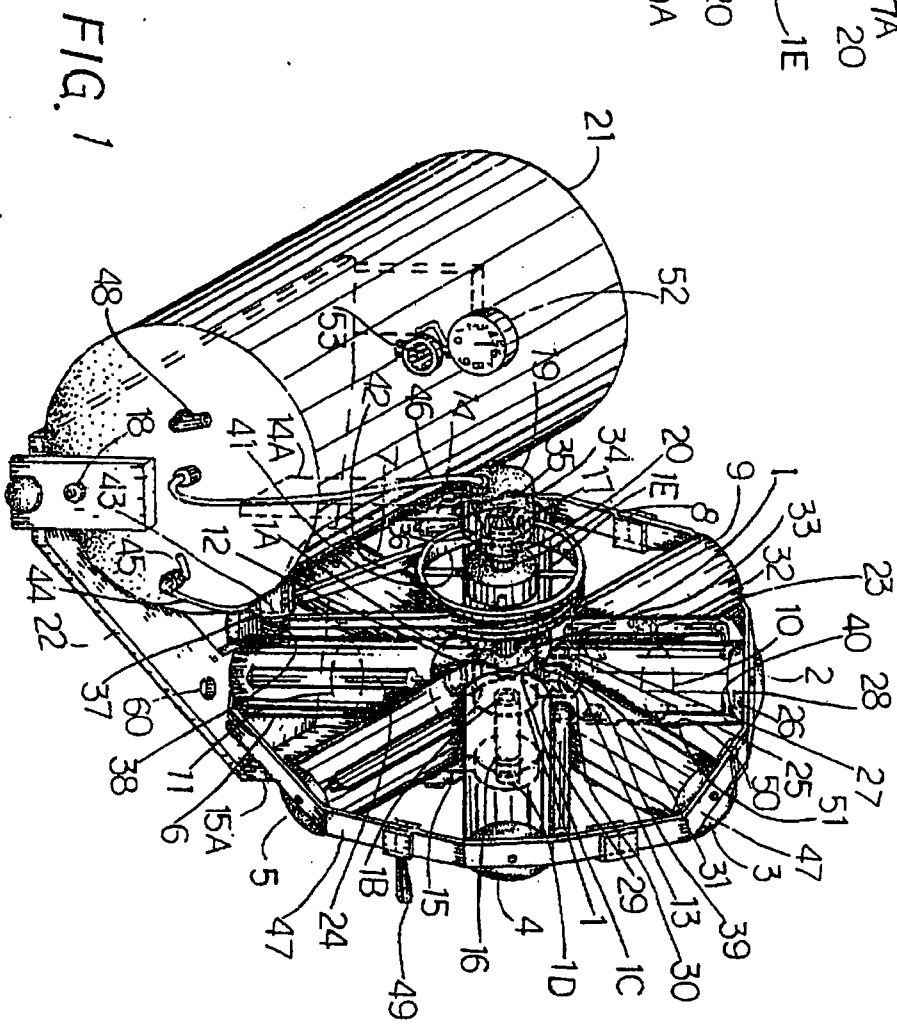
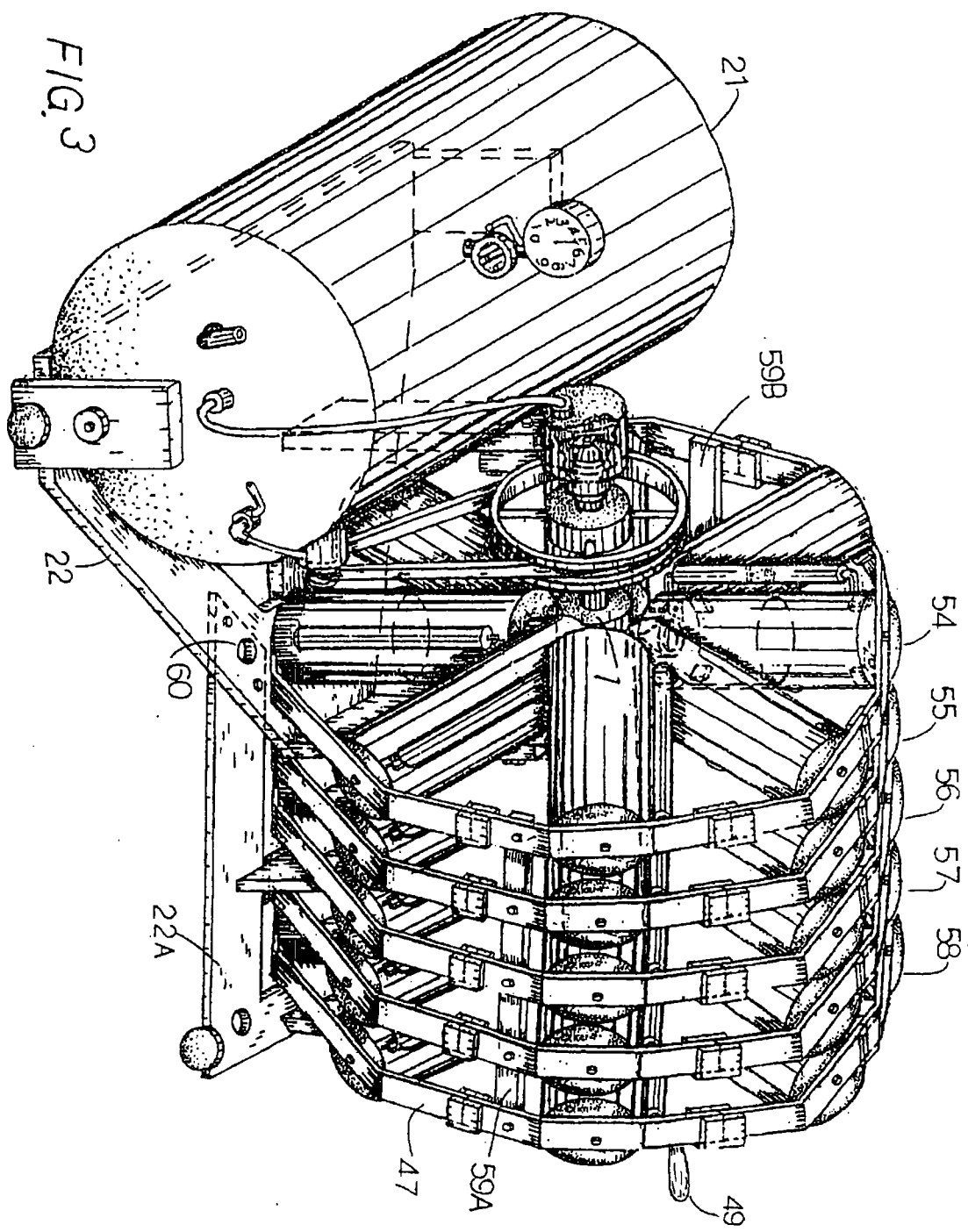
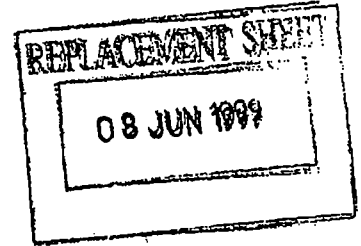


FIG. 1



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AIR COMPRESSOR

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FIELD OF THE ART

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The present invention relates to an air compressor, particularly to, an air compressor compressing air by the gravity and having a plurality of air compressing devices respectively able of automatically and continuously repeatedly and naturally compressing air and to generate a large quantity of compressed air but requires only a very little power.

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BACKGROUND OF THE ART

20

Previous conventional air compressor is necessary to expend much electricity, therefore, it is necessary to improve the conventional air compressor or to develop new energy or power.

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The present invention provides an air compressor having a plurality of air compressing devices respectively able of naturally compressing natural air and generating a large quantity of compressed air but requiring only very little power to be provided to users for use and to get essential power.

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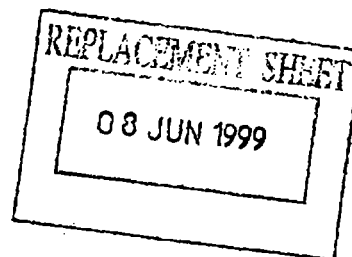
DISCLOSURES OF THE INVENTION

The present invention provides an air compressor compressing air by the gravity and having a plurality of air compressing devices respectively able of automatically and continuously repeatedly and naturally to compress a natural air and generating a large quantity of compressed air but requiring only a very little power.

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The plurality of air compressing devices are installed to a rotatable/rotated member and to together revolve therewith around the shaft following the rotation of the rotatable/rotated member and to respectively and naturally impulse down to compress air by an air compressing member inside it's cylinder like member.

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BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a side view of the first embodiment of the air compressor according to the present of invention.

Fig. 2 is enlarged side view section of a trough like member providing for a bearing to inlay and a hollow shaft borne via the bearing and a rubber cap having a central hole providing for covering an outside side of the bearing and providing for an end portion of the hollow shaft to be inserted therein and a container receiving and storing the compressed air come from the hollow shaft etc. of the air compressor of the present of invention.

Fig. 3 is a side view of a second embodiment of the air compressor of the present of invention.

DETAILED DESCRIPTION OF THE INVENTION

As shown in Fig. 1, the air compressor of present invention comprises:

a plurality of air compressing devices which are respectively attracted by the gravity and naturally to impulse down for compressing natural air by the gravity;

a rotatable/rotated member (for example a rotatable hollow shaft 1) providing for installing the plurality of air compressing devices and discharging all of the compressed air compressed by the plurality of air compressing devices;

the plurality of air compressing devices 2,3,4,5,6,7,8,9 are installed to the rotatable hollow shaft 1 or the rotated member and to together revolve around a the shaft following the rotation of the rotatable hollow shaft 1, and are respectively attracted by the gravity and naturally to impulse down for compressing natural air by the gravity and to generate a large quantity of compressed air to be provided to user for use and to get essential power when each of the plurality of air compressing devices respectively revolves around the shaft to a position of a certain height on or about a vertical line (vertical position);

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the each of the plurality of air compressing devices comprises a long cylinder like member (a long air chamber denoted by reference numbers 2,3,4,5,6,7,8,9) and a solid, long and very weighty piston like compressing member 10 or 11 (an appropriately long and weighty piston) inside the long cylinder and can impulse down to compress the natural air by the gravity only and without using any power, two air intakes 2 respectively can automatically open/close to allow/restrict the natural air entering the long cylinder of the each air compressing device; and

10 a short pipe 12 or 13 and others constructed for installing the each air compressing device and conveying out the compressed air compressed via the each air compressing device, and for restricting the compressed air to discharge only at a restricted quantity for generating an appropriate high pressure, then to discharge the compressed air;

two supporters 14, 15 which have respectively a seal-type bearing 16, 17 and are respectively to support two ends of the rotatable hollow shaft 1 or the rotated member and to allow the rotatable hollow shaft 1 or the rotated member to rotate;

25 a receiving container 19 for receiving and containing all of the compressed air compressed via the each of the plurality of air compressing devices and fixed at one of the two supporters 14,15 but is not rotating together with the rotatable hollow shaft 1;

30 a speed reducing device namely labour-saving driving device formed with the rotated member, for driving the rotatable hollow shaft 1 or the rotated member at a low speed and putting the air compressing member 10 or 11 to automatically and continuously repeatedly compressing air, saving very much labour;

35 a controlling device formed by mounting the each of air compressing device to the rotatable hollow shaft for the rotated member for putting down the air compressing member to a position to be attracted by the gravity;

40 a seal members namely a rubber cap 20 having a central aperture that can provide for an end portion of the rotatable hollow shaft 1 to be inserted therein and can be bound to the end portion of the rotatable hollow shaft 1 so as to seal a very small space of one of the bearing 17

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of the two supporters and can restrict the air inside the receiving container 19 to leak from the very small space;

a starting switch 18 or controller 45;

a container 21 storing and enhancing a pressure of all of the compressed air; and

a base 22 providing for installing the two supporters 14, 15 and the speed reducing device and the container 21 etc..

The rotated member (or for example, the rotatable hollow shaft 1) is rotated by the speed reducing device not at a high speed but at an appropriately low speed and is therefore, not generating a centrifugal force and can make the piston 10, 11 of the each air compressing device to naturally impulse down for compressing air when the each air compressing device revolves to a position on or about the vertical line.

The rotatable shaft 1 is providing not only for installing the hollow short pipe 12 or 13 of the each air compressing device, also for connecting the bottom end of the cylinder of the each air compressing device so as to install each of the plurality of air compressing devices on its circumference and is providing for receiving then for discharging out all of the compressed air to the receiving container 19 from the end portion of its hollow portion and is providing for driven by the speed reducing device and to form the labour-saving driving device and to drive the plurality of air compressing devices to revolve.

The plurality of air compressing devices are installed to the rotatable hollow shaft 1 along radial direction and in a spoke-like manner, then to together revolve around the shaft following the rotation of the rotatable hollow shaft 1 so that the air compressing member 10 or 11 inside the each air compressing device to be

attracted by the gravity and naturally to impulse down to compress air when the each air compressing device is driven to the position of the certain height by the labour-saving driving device.

The solid, long and very weighty piston like air compressing member 10, 11 of the each air compressing device is a solid piston and is weighty and not a hollow piston as that of a conventional compressor, and is

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inside the long cylinder like member.

5 The air compressor according to the invention further includes: the each
air compressing device, as it is brought to rotate by the rotation of the
rotatable member (for instance, the rotatable hollow shaft 1) or the rotated
member and rotates the rotation shaft one circle, and has the function that
is able to impulse down and to compress air two times since the solid,
10 long and very weighty piston 10 or 11 of the air compressing device is
able of being attracted by the gravity and naturally to impulse down and to
compress air by the gravity and not necessary to use any external power or
energy when the each air compressing device is respectively revolve
around the shaft to a position on or about a lower end of the vertical line.
Each long cylinder 2 of the each air compressing device further comprises
15 a conveying pipe 23 or 24 for conveying out a compressed air to a lower
air chamber of the long cylinder then to discharge the compressed air with
the short pipe 12 or 13 of the each air compressing device.

20 The two air intakes are respectively located at the two ends of the long
cylinder (air chamber) of the each air compressing device and are
respectively formed by an aperture 25 or 26 and a first or second valve 27
or 28 having a proper weight and located beneath the aperture 25 or 26
namely located inside the long cylinder, whereby not only the second
valve 28 can automatically close to restrict the discharge of the
25 compressed air, and the first valve 27 can automatically open toward the
inside of the long cylinder and to allow the natural air outside to be
attracted into the long cylinder when the each air compressing device is
respectively revolve to a position on or about the lower end of the vertical
line and when the piston impulses down to compress the natural air, but
also, the valve 27 can automatically close to restrict the discharge of the
30 compressed air, and the valve 28 can automatically open toward the inside
of the long cylinder and to allow the natural air outside to be attracted into
the long cylinder when the each air compressing device respectively
revolves to a position on or about the upper end of the vertical line and
when the piston 10 or 11 impulses down to compress the natural air.

35 A hollow portion of the short pipe 12 or 13 of the each air compressing
device respectively has a cone valve 29 which is its air inlet, it is larger
than its outlet (that is in-pumping hole 30), particularly, it has an elastic
thin piece 31 in front of the in-pumping hole 30, and can be pushed open
40 when the cone valve 29 is pumping air, so the cone valve 29 is only
allowing the each air compressing device respectively to pump air into the

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rotatable hollow shaft 1 but not allowing the air to retract. In another word, the cone valve 29 is a one-way valve and only allowing air to discharge but not allowing the air to retract.

5 The conveying pipe 23 or 24 of the each air compressing device has respectively a smaller cone valve 32 having its function as that of the cone valve 29 and a smaller elastic thin piece 33 having its function as that of the elastic thin piece 31, namely the conveying pipe 23 or 24 has a smaller one-way valve having its function as that of the cone valve 29, so it opens
10 only at the each of air compressing device respectively revolves to a position on or about the lower end of the vertical line but not allowing the compressed air enters into an upper air chamber of the long cylinder of the each air compressing device.

15 The cone valve 29 can restrict the compressed air only to be pumped into the rotatable hollow shaft 1 but not allowed the air to retract, also, it can reduce the sound caused by the impulse of the solid, long and very weighty piston of the each air compressing device when the solid, long and very weighty piston 10 or 11 of the each the air compressing device
20 impulses down to compress air.

The rotatable hollow shaft 1 comprises means for connecting two smaller hollow pipes 1A, 1B respectively to two ends of a larger and shorter hollow pipe 4 or other larger and shorter hollow member 1C so as to insert
25 and to connect the short pipe 12 or 13 of the each of the air compressing device to the circumference of the larger and shorter hollow member 1C and to install the each of air compressing device thereto. The rotatable hollow shaft 1 comprises: its first end portion 1D that is sealed (this end portion 1D is not connected to the receiving container 19). Two ends of
30 the rotatable hollow shaft 1 are respectively installed at the two supporters 14, 15 which respectively have the seal-type bearing 16, 17 so can be driven and rotated easily by the speed reducing device, and in turn to rotate the each air compressing device. The seal-type bearings 16, 17 are respectively installed on an upper end of each of the two supporters 14, 15.
35 The other one end portion 1E of the rotatable hollow shaft 1 is inserted in the receiving container 19 and to discharge or convey out all of the compressed air to the receiving container 19 then to be provided for the user for use.

40 The end portion 1E of the second end of the rotatable hollow shaft 1 has a cone valve 34 having the function as that of the cone valve 29 and an

elastic thin piece 35 having the function as the elastic piece 31 so it can only restrict all of the compressed air to be pumped into the container 21 but not allowed the air to retract.

5 As shown in Figs. 1 and 2, the receiving container 19 is combined with the other end portion 1E of the rotatable hollow shaft 1, namely, the annular shape flange 19A of the opening of a notch in the receiving container 19 is connected together with an annular flange 36A of a bearing housing,
10 namely, a trough like socket 36. The trough like socket 36 has a central aperture 36B providing for the compressed air to discharge from the rotatable hollow shaft 1 and to pass and enter into the receiving container 19.

15 Provided between the annular shape flange 19A of the receiving container 19 and the flange 36A of the trough like socket 36 is a washer 19B, the washer is able of preventing the compressed air from leaking. The trough like socket 36 is providing for inlaying therein a seal-type bearing 17 of the one of the two supporters 14, 15 so that the container 19 does not rotate following the rotation of the rotatable hollow shaft 1 but can receive
20 and store all of the compressed air respectively conveyed out from the short pipe 12 or 13 of the each air compressing device then can provide for discharging the compressed air to be stored in the container 21 so as to be provided for the user for use.

25 The very small space 17A of the seal-type bearing 17 is located between an outside circumference of a central hole of a cap 17B of the seal-type bearing 17 and an outside circumference of a central hole of one side of the seal-type bearing 17 and is sealed by a trough like rubber cap 20. The trough like rubber cap 20 has a central hole that can provide for the end
30 portion 1E of the rotatable hollow shaft 1 to be inserted therein and has a flange 20A that can be connected to the flange 36A of the trough like socket 36 and fixed thereto.

35 The central hole of the trough like rubber cap 20 is properly and tightly bound on an outside circumference of the other end portion 1E of the rotatable hollow shaft 1 and therefore, can prevent the compressed air from leaking.

40 The first end of the short pipe for example 12 or 13 of the each air compressing device is respectively connected to the central portion of the lower end of the long cylinder of the each air compressing device and the

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second end of the short pipe 12 or 13 is inserted into and connectedly installed on the circumference of the larger and shorter hollow member 1C of the rotatable hollow shaft 1 so as to fix and install each air compressing device and to discharge the compressed air into the rotatable hollow shaft 1.

The each air compressing device further comprises two groups of cushion devices 39, 40 for reducing the impulse force of the piston 10 or 11 so as to reduce sound produced by the impulse of the piston 10 or 11 when the piston impulses down to compress the air. Also, the height of one of the two groups of cushion devices 39, 40 should be appropriate such that some of the compressed air can be retained inside the long cylinder of the each air compressing device, hence, the retained compressed air can reduce the impulse force of the piston and to an extent reduce the sound produced by the piston when the piston impulsing down for compressing the air to an extent. The two groups of cushion devices are respectively of rubber cushions or air cushions or compress springs or oil cushions.

with the aid of a motor 37, the speed reducing device drives a pulley 38 of a smaller size, which in turn draws a belt 42 and drives a pulley 41 of a larger size, whereby the speed reducing device is not only enable the rotatable hollow shaft 1 to rotate at an appropriately low speed and to drive the plurality of air compressing devices to revolve and to let the piston of the each air compressing device respectively to be attracted by the gravity and to impulse down to compress air by the gravity and without the external power or energy, the speed reducing device also has a very large force that enable the rotatable hollow shaft 1 to rotate but by only little power (little electricity). The larger pulley 41 is many times larger than the smaller pulley 38 even larger than the pulley 41 shown in Fig. 1. The speed reducing device is driven to rotate by means of any other power. The speed reducing device is a driving device of labour saving and cycling device.

The means for driving the speed reducing device of the air compressor of the present invention further includes a small pneumatic motor 43 (please see dotted line portions within the motor 37) which is driven by the air pumped into the container 21 beforehand, thereby completely without using any external power or energy, particularly, because the plurality of air compressing devices are not necessarily rotating at a high speed so only by using the speed reducing device and with only a little power, therefore, the small pneumatic motor 43 is using only a very small

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quantity of the compressed air, so large quantities of all of the compressed air generated from the plurality of air compressing devices are able of enlarging the very small quantity of the real demand of the small pneumatic motor 43 and able of exceeding large quantities. The container 21 has a pipe 44 controlled by a control valve 45 (that is an actuating switch) and can supply the very small quantity of the compressed air to the small pneumatic motor 43.

Due the above designs, the air compressor of the present invention is able to continuously compress air to generate a large quantity of compressed air then to provide for the user for use and to get essential power by using only the gravity and the very little power (little electricity) to drive the motor 37 of the speed reducing device; or by using only the gravity and the very small quantity of the compressed air, to drive the small pneumatic motor 43 of the speed reducing device.

The receiving container 19 has a pipe 46 that can convey out all of the compressed air to the container 21.

The plurality of air compressing devices are very firmly connected together by a combining ring 47 after the each air compressing device is installed on the rotatable hollow shaft 1.

The container 21 comprises an adjustable exhaustor 48 so that the user can discharge some of the compressed air inside the container 21 when necessary so as to regulate and control the pressure of the compressed air inside the container 21 to a significant degree.

A combining ring 47 having a starting handle 49 provides for the user's hand to rotate the rotatable hollow shaft 1 so as to drive the plurality of air compressing devices to revolve around the shaft so that the each air compressing device respectively compresses air into the container 21 and stores therein then to supply air to actuate the small pneumatic motor 43 to continuously run and to drive the rotatable hollow shaft 1 or rotated member 1 to continuously rotate and to drive the plurality of air compressing devices to respectively revolve.

The solid, long and very weighty piston of the each air compressing device further comprises a piston ring having a function as that of the conventional piston.

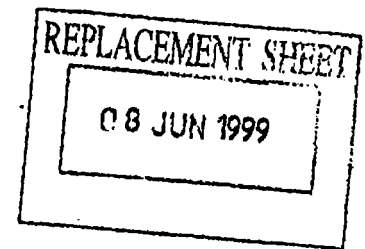
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The solid, long and very weighty piston and the long cylinder of the each air compressing device are respectively made to a shape including a quadrangle.

5 The air compressor of the present invention further comprises a small convex (so small that it is similar to a semispherical protruding) controlling jut 50, installed in the concave portion inside the long cylinder of the each air compressing device, that can automatically protrude slightly outward or backward for controlling the solid, long and very
10 weighty piston of the air compressing device to impulse down only as the piston revolves to a position on or about the vertical line, that is able to control the solid, long and very weighty piston not to impulse down before it reaches a position on or about the vertical line. For matching the small convex controlling jut 50, the edges of the two ends of the solid, long and
15 very weighty piston of the each air compressing device are respectively formed in the shape of an arc, so that not only the solid, long and very weighty piston can easily press and pass the small convex controlling jut 50 and can impulse down to compress air when it revolves to the upper end of the vertical line, but also can easily retract to its original position to
20 impulse down and compress air again when the solid, long and very weighty piston revolves to the lower end of the vertical line.

The container 21 comprises a pressure meter 52 and an exhauster 53 providing for the user to use the compressed air inside the container 21.

25 According to the second embodiment of the air compressor of the present invention, it further comprises several means for properly extending and enlarging the rotatable hollow shaft or the rotated member shown in Fig. 2, and installing at least two groups even more groups of the plurality of air
30 compressing devices 54, 55, 56, 57, 58 to the extended or enlarged rotatable hollow shaft or the rotated member 59 (as shown in Fig. 3), and enhancing the power of the speed reducing device and to enlarging the volumes of the receiving container 19 and the container 21, and extending the frame 22 more longer until it reaches the base portion 22A etc. so as to
35 generate much more quantities of compressed air. As shown in Fig. 3, the air compressor of the second embodiment of the present invention further comprises some links 59A, 59B to link the combining ring 47 of each of the at least two groups or more groups of the plurality of air compressing devices 54, 55, 56, 57, 58 so as to more strongly fix the two groups or more
40 groups of the plurality of air compressing devices.



The frame 22 comprises several holes 60 or 61 that can be provided for the user for inserting a bolt and for fixing the air compressor of the present invention.

5

OPTIMUM IMPLEMENTATION OF THE INVENTION

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The optimum implementation of the invention other than as shown in fig. 1 comprises of the plurality of air compressing devices are installed to the rotatable hollow shaft 1 and driven at an appropriately low speed by the speed reducing device and to together revolve around a shaft following the rotation of the rotatable hollow shaft 1 (that is to rotate together with the rotation of the rotated member), and to be respectively attracted by the gravity and naturally to impulse down for compressing the natural air by the gravity and to generate a large quantity of compressed air when each of the plurality of air compressing devices respectively revolves around a shaft to a position on or about a vertical line, the plurality of air compressing devices are installed with even more groups (as shown in Fig. 2) so as to generate much more quantity of compressed air. And the rotatable hollow shaft 1 is rotated at an appropriately low speed by the speed reducing device that generating a power by a motor or by a small pneumatic motor which is driven by a very small quantity of air inside the container 21 pumped thereinto beforehand.

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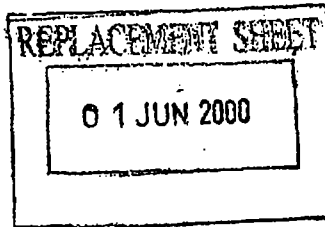
INDUSTRIAL APPLICATION

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The air compressor of the present invention is able of naturally compressing a natural air by using only very little power or electricity, even by only a very small quantity of the compressed air to generate a much more large quantity of compressed air to provide essential power. This widely industrial application is appreciated.



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CLAIMS

1. An air compressor compressing air by a natural power, comprises air compressing devices enabling an air compressing member which can be attracted by the gravity and naturally impulsing down to be attracted by the gravity and to naturally impulsing down to compress air.

2. An air compressor compressing air by a natural power, comprises:

a rotatable member,

an air compressing device having an air compressing member which can be attracted by the gravity and to naturally impulsing down, and having mounted to said rotatable member, for revolving around following the rotation of said rotatable member and to make said air compressing member to be attracted by the gravity and to naturally impulsing down to compress air, and

a discharging or storing member for discharging or storing a compressed air compressed by said air compressing devices etc. So as to make said air compressing device to revolve around following said rotation of said rotatable member when said rotatable member is rotated with a proper slow speed and to make said air compressing devices to be attracted by said gravity and naturally impulsed down to compress said air that become a compressed air and to be provided for using when said air compressing device is revolve around to a position locating the vertical ling.

3. An air compressor compressing air by a natural power, comprises:

a rotatable member,

an air compressing device having an air compressing member which can be attracted by the gravity and to naturally impulsing down, and having mounted to said rotatable member, for revolving around following the rotation of said rotatable member and to make said air compressing member to be attracted by the gravity and to naturally impulsing down to compress air,

a speed reducing device enabling said rotatable member to rotate with a proper slow speed and to drive said air compressing devices to revolve around, and

a discharging or storing member for discharging or storing a compressed air compressed by said compressing devices etc. so as to make said air

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compressing device revolving around following said rotation of said rotatable member when said rotatable member, is rotated with said proper slow speed and to make said air compressing device to be attracted by said gravity for naturally impulsing down to compress said air so that said air become a compressed air and to be provided for using when said air compressing devices revolve around to a position locating the vertical line.

4. The air compressor as claimed in claim 2, wherein the number of said air compressing devices exceed at least more than two and are all mounted to said rotatable member.
5. The air compressor as claimed in claim 3, wherein the number of said air compressing devices exceed at least more than two and are all mounted to said rotatable member.
6. The air compressor as claimed in claim 4, wherein said air compressing devices of at least more than two are arranged in series and mounted on said rotatable member along radial direction, namely arranged in series and mounted on said rotatable member by a spoke like arrangement so that can be actuated by said rotatable member and revolved around when said rotatable member is rotating.
7. The air compressor as claimed in claim 5, wherein said air compressing devices of at least more than two are arranged in series and mounted on said rotatable member along radial direction, namely arranged in series and mounted on said rotatable member by a spoke like arrangement so that can be actuated by said rotatable member and revolved around when said rotatable member is rotating.
8. The air compressor as claimed in claim 2 or 3 or 4 or 5 or 6 or 7, wherein said rotatable member is to be driven by means including a speed reducing device driven by a motor and to be rotated with a proper slow speed.
9. The air compressor as claimed in claim 2 or 3 or 4 or 5 or 6 or 7, wherein said rotatable member is to be driven by means including a speed reducing device driven by a pneumatic motor requiring only a very little of the compressed air of said air compressor and to be rotated with a proper slow speed.
10. The air compressor as claimed in claim 2 or 3 or 4 or 5 or 6 or 7, wherein said rotatable member is to be driven by means including a speed reducing device driven by a pneumatic motor and to be rotated with a proper slow speed.
11. The air compressor as claimed in claim 2 or 3 or 4 or 5 or 6 or 7, wherein said rotatable member is to be driven by means including a speed reducing

device driven by a human power and to be rotated with a proper slow speed.

12. The air compressor as claimed in claim 2 or 3 or 4 or 5 or 6 or 7, wherein said rotatable member is driven by means including a speed reducing device driven by other power and to be rotated with a proper slow speed.

13. The air compressor as claimed in claim 2, further comprising:

a rotatable shaft,

a cylinder,

a piston inside said cylinder,

an intake for automatically open and to let said air enters into said cylinder when said air compressing devices revolve around to a lower end of said vertical line, and for automatically closing and to stop said compressed air discharged from inside of said cylinder when said air compressing devices revolve around to an upper end of said vertical line, and

a container receiving said compressed air discharged from said air compressing devices.

14. The air compressor as claimed in claim 3, further comprising:

a rotatable shaft,

a cylinder,

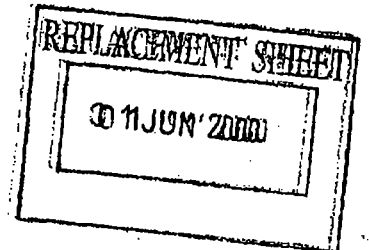
a piston inside said cylinder,

an intake for automatically open and to let said air enters into said cylinder when said air compressing devices revolve around to a lower end of said vertical line, and for automatically closing and to stop said compressed air discharged from inside of said cylinder when said air compressing devices revolve around to an upper end of said vertical line, and

a container receiving said compressed air discharged from said air compressing devices.

15. The air compressor as claimed in claim 13 or 14, wherein said rotatable shaft comprises a section of a larger diameter so that said air compressing devices can be mounted thereto and a large number of said air compressing devices can be mounted thereto.

16. The air compressor as claimed in claim 13, wherein said container is



combined with an end portion of said rotatable shaft but not rotating following said rotatable shaft and can receive said compressed air which comes from said air compressing devices and is discharged from said end portion of said rotatable shaft.

17. The air compressor as claimed in claim 14, wherein said container is combined with an end portion of said rotatable shaft but not rotating following said rotatable shaft and can receive said compressed air which comes from said air compressing devices and is discharged from said end portion of said rotatable shaft.
18. The air compressor as claimed in claim 13, wherein said piston is a kind of solid and very weighty piston and is not a hollow piston as a conventional piston that having a hollow portion so that it is capable of generating a very large impulse to compress said air when said piston is attracted by said gravity and naturally impulsing down.
19. The air compressor as claimed in claim 14, wherein said piston is a kind of solid and very weighty piston and is not a hollow piston as a conventional piston that having a hollow portion so that it is capable of generating a very large impulse to compress said air when said piston is attracted by said gravity and naturally impulsing down.
20. The air compressor as claimed in claim 15, wherein said piston is a kind of solid and very weighty piston and is not a hollow piston as a conventional piston that having a hollow portion so that it is capable of generating a very large impulse to compress said air when said piston is attracted by said gravity and naturally impulsing down.
21. The air compressor as claimed in claim 13 or 14, wherein said piston is a kind of very long piston so that it is very weighty .
22. The air compressor as claimed in claim 13 or 14, wherein said air compressing devices further including devices having a function capable for compressing air two times, that is when said air compressing devices are revolving around respectively to said upper and lower ends of said vertical line, said air compressing devices being capable of attracted by said gravity and impulsing down to compressing air, such that said air compressing devices compressing air two times when revolving around one circle.
23. The air compressor as claimed in claim 2 or 3 or 4 or 5 or 6 or 7 or 13 or 14, wherein said air compressing further comprising at least two or more sets of said air compressing devices, each set respectively having a large number of said air compressing devices and said two or more sets of said air compressing devices are all to be mounted to said rotatable member, so as to generate more quantity of compressed airs.

REPLACEMENT SHEET

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24. An impulse system generating an impulse force by a natural force comprises an impulse device enabling an impulse member which can be attracted by the gravity and naturally impulsing down to be attracted by said gravity and to naturally impulsing and to generate an impulse force, so as to generate a power by said impulse force to be provided for using when said impulse member is attracted by the gravity and naturally impulsing down.
25. The compressor as claimed in claim 24, further comprises:
- a rotatable member, and
- an impulse compress device having an impulse member which can be attracted by the gravity and naturally impulsing, and having been mounted to said rotatable member so as to make said impulse compress device to revolve around following said rotation of said rotatable member when said rotatable member is rotated with a proper slow speed and to make said impulse compress member of said impulse compress device to be attracted by the gravity and to naturally impulsing down to generate an impulse force to be provided for using when said impulse compress device is revolving around to a position locating the vertical line.
26. The impulse system as claimed in claim 25, wherein said impulse device are at least more than two in number and are mounted to said rotatable member.
27. The impulse system as claimed in claim 26, wherein said impulse device of at least more than two in number and are arranged in series and mounted on said rotatable member along radial direction, namely arranged in series and mounted on said rotatable member by a spoke like arrangement so that can be actuated by said rotatable member and revolved around when said rotatable member is rotated.
28. The impulse system as claimed in claim 25 or 26 or 27, wherein said rotatable member is to be driven by means including a speed reducing device driven by a motor and rotating with a proper slow speed.
29. The impulse system as claimed in claim 25 or 26 or 27, wherein said rotatable member is to be driven by means including a speed reducing device driven by a human power and rotating with a proper slow speed.
30. The impulse system as claimed in claim 25 or 26 or 27, wherein said rotatable member is to be driven by means including a speed reducing device driven by means including a speed reducing device driven by other power and rotating with a proper slow speed.
31. The impulse system as claimed in claim 25 or 26 or 27 or 28 or 29 or 30,

wherein said rotatable member is a kind of rotatable hollow shaft.

32. The impulse system as claimed in claim 25 or 26 or 27, wherein said rotatable shaft comprises a section of a larger diameter for mounting said impulse device thereto.
33. The impulse system as claimed in claim 24 or 25, wherein said impulse member is a kind of solid and very weighty piston like member and not a hollow piston as a conventional piston having a hollow portion so that it is capable of generating a very large impulse force to impulse down when said impulse member is attracted by the gravity and naturally impulsing down.
34. The impulse system as claimed in claim 24 or 25 or 33, wherein said impulse member is a kind of a very long piston like member so that it is very weighty.
35. The impulse system as claimed in claim 25 or 26 or 27, wherein said impulse device further including a device having a function capable for impulsing two times, that is when said impulse device is revolving around respectively to said upper and lower ends of said verticle line, said impulse device being capable of being attracted by said gravity and impulsing down, such that said impulse device is able to impulse two times when revolving around one circle.
36. The impulse system as claimed in claim 26 or 28 or 33, further comprising at least two or more sets of said impulse device, each of said two or more sets respectively having a large number of said impulse device and said two or more sets of impulse device are all mounted to said rotatable member, so as to generate more larger quantity of power.

